

Amendments to Claims

1. (Canceled)

2. (Currently Amended) The method of claim 1 36, further comprising the step of:

(d) determining which of the position information in the plurality of records is within the circular search area based on step (c).

3. (Canceled)

4. (Currently Amended) The method of claim 3 36, wherein the position information in the plurality of records includes a latitude and a longitude associated with a position, and

wherein the smallest square search area covers a latitude range and a longitude range corresponding respectively to a height and a width of the smallest square search area, the height and the width corresponding to a distance equal to at least twice the ~~at least one proximity parameter~~ search radius, and

wherein step (c) comprises respectively comparing the latitude and the longitude associated with the plurality of records to the latitude range and the longitude range covered by the smallest square search area to determine which of the position information in the plurality of records is within the smallest square search area.

5. (Previously Amended) The method of claim 4, wherein step (b) further comprises calculating respective latitudes and longitudes of at least first, second, and third corners of the smallest square search area, wherein the latitude range extends between the latitudes of the first and the second corners of the smallest square search area and the longitude range extends between the longitudes of the second and the third corners of the smallest square search area.

6. (Previously Amended) The method of claim 5, wherein step (b) further comprises calculating the latitudes and the longitudes of at least the first, the second, and the third corners of the smallest square search area, wherein the first and the second corners are at a same longitude but different latitudes and the second and the third corners are at a same latitude but different longitudes.

7. (Previously Amended) The method of claim 4, wherein step (b) further comprises the steps of:

calculating an angular width of the smallest square search area, the angular width being subtended by at least the width of the smallest square search area;
and

calculating an angular height of the smallest square search area, the angular height being subtended by at least the height of the smallest square search area.

8. (Previously Amended) The method of claim 7, wherein the predetermined position has a predetermined position latitude and a predetermined position longitude, and wherein step (b) further comprises the steps of:

calculating respective latitudes for the first, the second and the third corners using the predetermined position latitude and the angular height of the smallest square search area; and

calculating respective longitudes for the first, the second and the third corners using the predetermined position longitude and the angular width of the smallest square search area.

9. (Currently Amended) The method of claim 8, wherein step (a) comprises the step of receiving an information request associated with the predetermined position and the ~~at least one proximity parameter~~ search radius.

10. (Previously Amended) The method of claim 9, further comprising the step of:

(e) sending a search result based on the records associated with the position information determined to be within the smallest square search area at step (c), to fulfill the information request.

11. (Previously Amended) The method of claim 4, wherein step (b) further comprises calculating the circular and the smallest square search areas using a non-planar geometry.

12. (Previously Amended) The method of claim 4, wherein step (b) further comprises calculating the circular and the smallest square search areas using a planar geometry.

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Currently Amended) The system of claim ~~15~~ 38, wherein the proximity searcher is adapted to determine which of the plurality of records include the position information within the circular search area based on a comparison between the set of latitudes and longitudes and the position information in the plurality of records.

17. (Canceled)

18. (Currently Amended) The system of claim ~~17~~ 38, wherein the position information in the plurality of records includes a latitude and a longitude associated with a position, and

wherein the smallest square search area covers a latitude range and a longitude range corresponding respectively to a height and a width of the smallest square search

area, the height and the width corresponding to a distance equal to at least twice the at
~~least one proximity parameter~~ search radius, and

wherein the proximity searcher is adapted to respectively compare the latitude and the longitude associated with the plurality of records to the latitude range and the longitude range covered by the smallest square search area to determine which of the position information in the plurality of records is within the smallest square search area.

19. (Previously Amended) The system of claim 18, wherein the proximity searcher is adapted to compare respective latitudes and longitudes of at least first, second, and third corners of the smallest square search area, wherein the latitude range extends between the latitudes of the first and the second corners of the smallest square search area and the longitude range extends between the longitudes of the second and the third corners of the smallest square search area.

20. (Previously Amended) The system of claim 19, wherein the proximity searcher is adapted to calculate the latitudes and the longitudes of at least the first, the second, and the third corners of the smallest square search area, wherein the first and the second corners are at a same longitude but different latitudes and the second and the third corners are at a same latitude but different longitudes.

21. (Previously Amended) The system of claim 18, wherein the proximity searcher is adapted to

calculate an angular width of the smallest square search area, the angular width being subtended by at least the width of the smallest square search area, and

calculate an angular height of the smallest square search area, the angular height being subtended by at least the height of the smallest square search area.

22. (Previously Amended) The system of claim 21, wherein the predetermined position has a predetermined position latitude and a predetermined position longitude, and wherein the proximity searcher is adapted to

calculate respective latitudes for the first, the second and the third corners using the predetermined position latitude and the angular height of the smallest square search area, and

calculate respective longitudes for the first, the second and the third corners using the predetermined position longitude and the angular width of the smallest square search area.

23. (Currently Amended) The system of claim 22, wherein the proximity searcher is adapted to receive an information request associated with the predetermined position and the ~~at least one proximity parameter~~ search radius.

24. (Previously Amended) The system of claim 23, wherein the proximity searcher is adapted to send a search result based on the records associated with the position information determined to be within the smallest square search area, to fulfill the information request.

25. (Previously Amended) The system of claim 18, wherein the proximity searcher is adapted to calculate the circular and the smallest square search areas using a non-planar geometry.

26. (Previously Amended) The system of claim 18, wherein the proximity searcher is adapted to calculate the circular and the smallest square search areas using a planar geometry.

27. (Canceled)

28. (Currently Amended) The computer program product of claim ~~27~~ 39, further comprising a fourth computer readable program code means for causing the processor to determine which of the position information in the plurality of records is within the circular search area based on a comparison between the set of latitudes and longitudes and the position information in the records.

29. (Canceled)

30. (Currently Amended) The computer program product of claim ~~29~~ 39, wherein the position information in the plurality of records includes a latitude and a longitude associated with a position, and

wherein the smallest square search area covers a latitude range and a longitude range corresponding respectively to a height and a width of the smallest square search area, the height and the width corresponding to a distance equal to at least twice the at ~~least one proximity parameter~~ search radius, and

wherein the third program code means includes computer readable program code means for causing the processor to respectively compare the latitude and the longitude associated with the plurality of records to the latitude range and the longitude range covered by the smallest square search area to determine which of the position information in the plurality of records is within the smallest square search area.

31. (Previously Amended) The computer program product of claim 30, wherein the second computer program code means includes computer readable program code for causing the processor to calculate respective latitudes and longitudes of at least first, second, and third corners of the smallest square search area, wherein the latitude range extends between the latitudes of the first and the second corners of the smallest square search area and the longitude range extends between the longitudes of the second and the third corners of the smallest square search area.

32. (Canceled)

33. (Canceled)

34. (Canceled)

35. (Canceled)

36. (New) A method of performing a proximity search, comprising the steps of:

- (a) receiving a search radius defining a circular search area centered around a predetermined position;
- (b) calculating a set of latitudes and longitudes to define a smallest square search area into which the circular search area can fit based on the search radius; and
- (c) comparing the set of latitudes and longitudes to position information in a plurality of records stored in a database.

37. (New) A method of performing a proximity search, comprising the steps of:

- (a) receiving a search radius defining a circular search area centered around a predetermined position;
- (b) mapping the circular search area to a smallest square search area into which the circular search area can fit based on the search radius and being defined in terms of a set of latitudes and longitudes; and
- (c) comparing the set of latitudes and longitudes to position information in a plurality of records stored in a database to determine which of the plurality of records include the position information within the smallest square search area.

38. (New) A system for performing a proximity search, comprising:
a database including a plurality of records for storing position-information; and
a proximity searcher that receives a search radius defining a circular search area
centered around a predetermined position,
calculates a set of latitudes and longitudes to define a smallest square search area
into which the circular search area can fit based on the search radius, and
compares the set of latitudes and longitudes to the position information in the
plurality of records stored in the database.

39. (New) A computer program product comprising computer usable media
having computer readable program code means embodied in the media for causing
application programs to execute on a computer processor to perform a proximity search,
the computer readable program code means comprising:
a first computer readable program code means for causing the processor
to receive a search radius defining a circular search area centered around a predetermined
position;
a second computer readable program code means for causing the
processor to calculate a set of latitudes and longitudes to define a smallest square search
area into which the circular search area can fit based on the search radius; and
a third computer readable program code means for causing the processor
to compare the set of latitudes and longitudes to position information in a plurality of
records stored in a database.

This listing of claims will replace all prior versions, and listings of claims in the application.